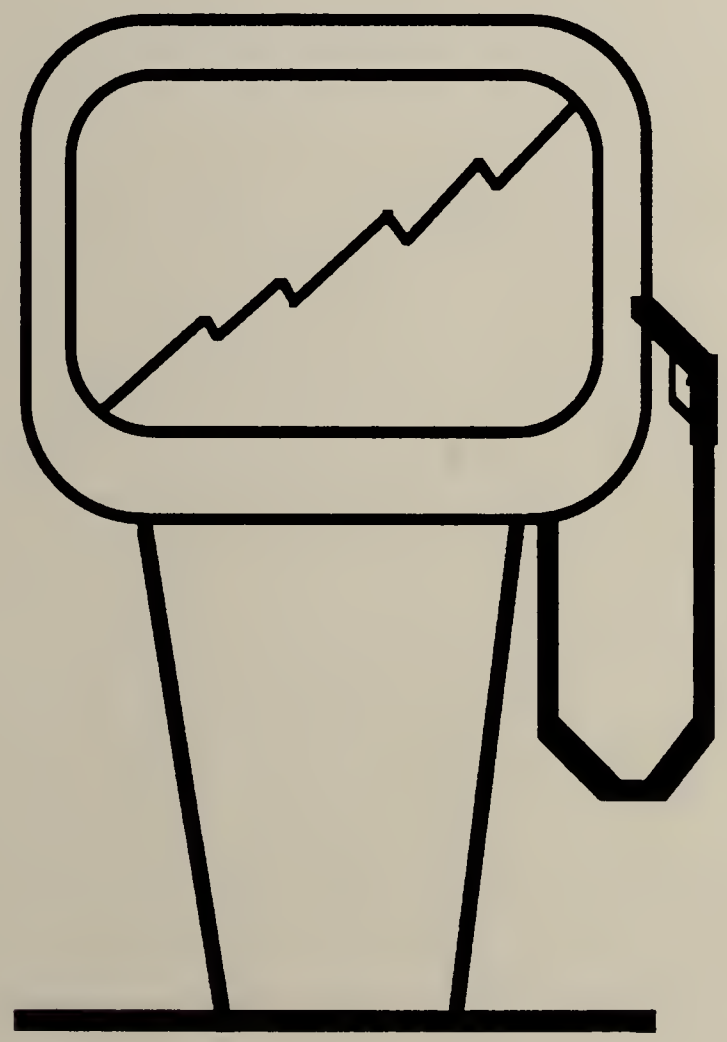
COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY RESOURCES

INVESTIGATION OF GASOLINE PRICE INCREASES



Sharon M. Pollard
Secretary of Energy Resources

July 25, 1989

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1.0 EXECUTIVE SUMMARY

The dramatic twenty-six cent rise in wholesale gasoline prices in the Spring of 1989, which produced the largest one-month price increase in history, led the Executive Office of Energy Resources (EOER) to conduct a formal investigation into the cause of the price increase. The goal of the investigation was to determine whether the increased prices were justified, or whether the oil companies were increasing profits at the expense of consumers.

To gather information, EOER convened four panels of experts, including Massachusetts gasoline wholesalers and retailers, representatives of major oil companies, environmental regulators, and oil industry analysts. At formal hearings held between June 8 and June 20, 1989, EOER examined the impact of the Exxon Valdez oil spill, new environmental standards, several mishaps at sea, and seasonal demand on the price of gasoline during the Spring of 1989. As a result of those hearings and EOER's own research, EOER made the following Findings and Recommendations (presented in more detail in Section 5.0 of this Report):

FINDINGS

1. The Exxon Valdez accident did not cause a supply disruption sufficient to justify the rapid and sudden increase in the price of gasoline. Rather, major oil companies took advantage of the public awareness and psychological impact of the Valdez oil spill to increase their profit margins.

2. While the major oil companies increased their profit margins following the Valdez accident, retail service station operators generally did not.

3. The federal government has done little to ensure that adequate supplies of gasoline will be available to consumers at prices that are fair and reasonable.

4. Implementation of stricter environmental standards was responsible for, at most, a one-to-three cents per gallon increase in the price of gasoline.

5. The most effective way to reduce our vulnerability to the price and supply uncertainties of the gasoline market is to reduce our consumption of gasoline and to use existing supplies more efficiently.

RECOMMENDATIONS

1. That because gasoline and home heating oil are necessities of life, the federal government should convene an inter-agency task force to review the competitiveness of the nation's oil industry. Federal anti-trust laws should be reviewed to determine whether any violations are now occurring, and whether the anti-trust laws themselves are adequate to protect the American consumer from the unfettered operation of the marketplace.

2. That Congress enact legislation to ensure that any oil company involved in acts of negligence (similar to those of Exxon in the Valdez accident) bears full financial responsibility for the costs of the cleanup, and that such costs may not be passed on to consumers.

3. That EOER continue its periodic monitoring of price and supply of gasoline and home heating oil in the Commonwealth, and should explore ways to coordinate that effort with Energy offices in the other New England states.

4. That EOER and the Department of Environmental Protection (DEP) (formerly know as the Department of Environmental Quality Engineering [DEQE]) coordinate efforts in monitoring gasoline supply and determining what actions could be taken to adjust environmental standards in the event of a gasoline supply disruption.

5. That the state and federal government promote policies and programs to encourage the conservation and more efficient use of gasoline and alternative fuels.

6. That the Massachusetts Legislature enact H. 5914: An Act Reducing the Greenhouse Effect by Promoting Clean and Efficient Energy Resources. This bill includes measures designed to promote the use of energy efficient vehicles.

2.0 BACKGROUND TO EOER'S INVESTIGATION

Massachusetts consumers experienced sharply rising gasoline prices in the Spring of 1989, after stable prices at the pump over the previous six months. The dramatic rate and large amount of the price increases were of particular concern to the Executive Office of Energy Resources (EOER).

In response to the price escalations, EOER began its investigation by reviewing the traditional elements that make up the ultimate retail price of gasoline, in order to explain the increase.

Since October of 1988, crude oil prices increased $7 per barrel or more than 17 cents per gallon. Wholesale prices did not immediately follow the October crude oil increase, but wholesale gasoline prices at Boston Harbor terminals began to climb around March 10, 1989, according to Platts Oilgram, an industry trade publication. Between mid-March and May of 1989, wholesale gasoline prices went up 26 cents per gallon. The resulting state average retail price increase was 10 cents per gallon--as much as 19 cents per gallon at individual gasoline stations--thus resulting in the single largest short-term gasoline increase in United States history.

The most substantial portion of the increase in wholesale and retail prices occurred between March and April of 1989, after the tanker Exxon Valdez ran aground on Bligh Reef in Prince William Sound, Alaska. The Exxon accident touched off a supply panic on the West Coast which reverberated

throughout the country. Between March 24th and April 28th of 1989, wholesale prices at Boston Harbor terminals rose 20 cents per gallon. Reacting to the visual devastation of the Exxon accident and the financial pinch at gas stations, consumers began to express their outrage over the situation.

At the end of April, 1989, the Massachusetts Senate passed a formal resolution directing EOER to investigate the situation. The resolution was sponsored by Senator John Houston of Worcester.

In early May of 1989, EOER sent certified letters to the major oil companies who serve Massachusetts and the Northeast area of the country. The letters included a series of questions about the impact of the Alaskan oil spill and new environmental standards on the price of gasoline, as well as the companies' gasoline distribution systems. Based on the companies' responses to those letters and the continuing gasoline price increases, Sharon M. Pollard, Secretary of Energy Resources, determined that formal hearings on the issues would be necessary to gather the evidence needed for a full investigation.

On May 18, 1989, EOER announced its intent to conduct such an investigation and to hold formal hearings. The goal of the investigation was to determine whether the gasoline price increases were justified. To gather information and to supplement EOER's own research, EOER convened public hearings between June 8 and June 20, 1989. Secretary Pollard chaired

the meetings and was joined on the panel by Senator John Houston, and Senator Nicholas Costello and Representative Lawrence Alexander, co-chairmen of the Joint Committee on Energy. At those hearings, comments were received and questions were asked of four panels: (1) Gasoline Wholesalers and Retailers; (2) Major Oil Companies; (3) Environmental Regulators; and (4) Oil Industry Analysts. In addition to the information gathered at the hearings, EOER continued to conduct background research.

EOER examined several events which could have contributed to the price increase, including: crude oil price increases; the Exxon Valdez oil spill; the implementation of new environmental standards for gasoline; and seasonal demand. Section 4.0 of this report presents the results of EOER's investigation and analysis of the price increase, and excerpts from written and oral testimony by the aforementioned participants. Section 5.0 presents EOER's Findings and Recommendations. For the reader's information, an overview of the gasoline market is presented in Section 3.0, and additional data can be found in the Appendix at the end of the report.

3.0 OVERVIEW OF THE GASOLINE MARKET

In order to establish a framework for understanding the refining, wholesale and retail functions of the gasoline industry, a brief overview of the marketing of gasoline from refinery to the retail level is presented in this section.

3.1 REFINING

Gasoline production begins with the refining process. Typically, refiners are categorized as follows:

> Integrated - they own many refineries; produce gasoline, and may sell it to wholesalers; directly supply retail service stations as well as their own company-operated service stations; and sometimes sell gasoline on the spot or non-contractual market. In most cases, their marketing facilities are located across the United States.
>
> Large Independents - they own one or more refineries, large and small, and are involved in one or more geographic markets. They may sell directly to service stations, wholesalers and the spot market.
>
> Small Independents - they own one or more small refineries, serving a limited geographic area.

Refineries are configured differently, depending on the refiner's product market. For example, some companies such as Mobil Oil Company, which is consumer products oriented, tend to produce primarily gasoline and middle distillates (heating oil and diesel fuel). These refineries have some flexibility to change the product yields at the refinery, depending on demand. The yield for gasoline is about 50% and 25% for middle distillates. Other refineries are configured to refine specific products such as asphalt.

Crude oil is not shipped directly to Massachusetts, since there are no refineries in the Commonwealth or New England. Rather, New England receives the bulk of its refined products such as gasoline from refineries on the Gulf Coast and East Coast, and the balance from imports and spot market purchases. The gasoline is transported to New England via pipelines, coastal tankers, barges and trucks.

The exact amount of gasoline which is refined from foreign crude oil and then shipped to Massachusetts is difficult to determine. EOER estimates that over 60% of Massachusetts' supply of gasoline is derived from foreign crude oil as well as direct foreign imports.

3.2 WHOLESALE SEGMENT

The wholesale level of the distribution system links the refiners to the retail service stations. Theoretically, wholesalers buy in bulk and then sell gasoline to other wholesalers, directly to service stations (their own or independent stations) or to large end-users. Wholesalers may own or lease their storage facilities.

In New England, wholesalers may buy product from major oil companies' terminals and independent refiners' terminals ("at the rack"), on the spot market, or import it from foreign refiners.

A wholesaler may be a branded or non-branded marketer. "Branded" means that the wholesaler is buying and selling product under the refiner's brand name (e.g., Mobil). A

"non-branded" wholesaler sells under his own brand name or no brand name.

3.3 RETAIL SEGMENT

Retailers are classified according to four categories:

Independent Lessee Dealer - Rents or leases the service station property and equipment from major oil companies and sells major oil companies' branded gasoline. These dealers set their own retail prices.

Independent End Dealer - Owns the service station property and, in most cases, the equipment. Buys gasoline from major oil companies, or directly from wholesalers. These dealers also set their own retail prices.

Direct Operations - This type of service station is owned by a major oil company (or sometimes by wholesalers) and run by the company's salaried employees. The major oil company directly supplies the station and sets the retail price.

Commissioned Agent - This type of service station is owned by a major oil company or wholesaler, and run by people who work on a commission based on gasoline sales. The agents are otherwise independent of the oil company.

There are approximately 2500 service stations in Massachusetts. Of these, about 40% are owned by the dealer; 40% are leased by the dealer from a major oil company; 5 to 10% are company-operated; and 5 to 10% are commissioned agents.

Although the number of company-operated and commissioned agents is small, these stations usually sell very high volumes of gasoline. (It was estimated by a retailer in the hearings that these stations could account for 20% of the 2.5 billion gallons of gasoline sold in the state each year.) (See Figure 1, below.)

Overview of the Gasoline Distribution System

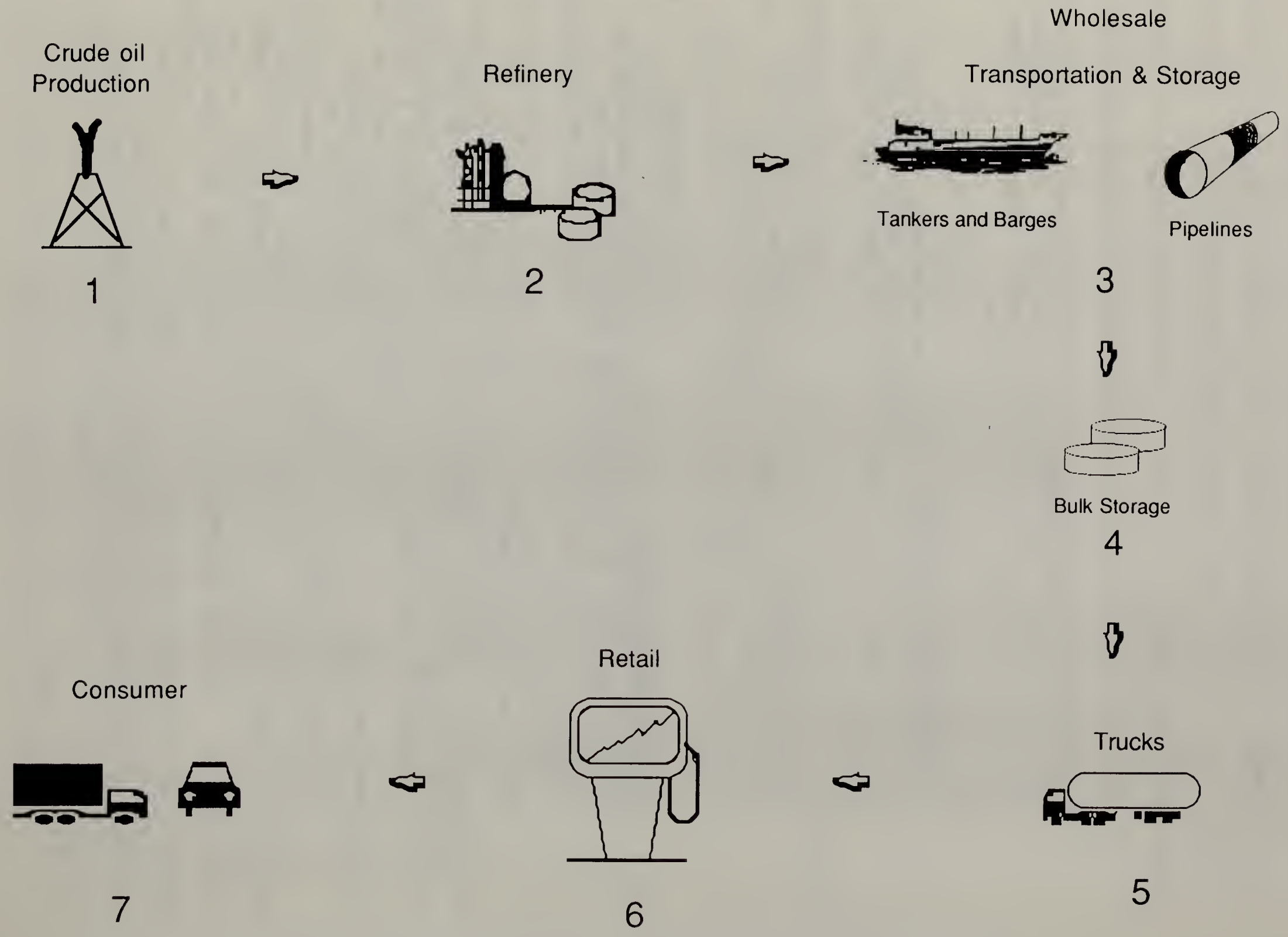


Figure 1

4.0 EOER'S INVESTIGATION AND ANALYSIS OF THE GASOLINE PRICE INCREASE

4.1 CRUDE OIL PRICE INCREASES

EOER's analyses of the world's crude oil markets showed that there was a substantial rise in crude oil prices beginning in October, 1988. The spot price of West Texas Intermediate (WTI) crude oil, the domestic benchmark for crude oil, was at a low of $13 per barrel in October of 1988, and rose to a little over $20 per barrel by mid-March, 1989. During the same time period, OPEC spot crude oil prices rose from $10 per barrel to $17 per barrel. WTI crude prices remained at $20 per barrel until late April of 1989, when prices rose to $23 per barrel for a few days, but then receded and stabilized at $20 per barrel through the end of May, 1989. (See Appendix 1-A.)

EOER found that a combination of factors led to the rise in world crude prices, as discussed in the following Sections 4.1.1 through 4.1.5.

4.1.1 OPEC's November 1988 Production Accord

In October and November, 1988, the members of the Organization of Petroleum Exporting Countries (OPEC) held a series of meetings aimed at stabilizing and then increasing crude oil prices through reductions in crude oil production. In late November of 1988, OPEC countries formed a new pact in which they set an $18 per barrel price target, and new production quotas which they hoped would eliminate overproduction.

The new ceiling of 18.5 million barrels per day was slated for the first half of 1989. Throughout the first quarter of 1989, OPEC members showed signs of adhering to the new agreements. In fact, Saudi Arabia, OPEC's largest producer, announced in mid-March a cutback in crude oil supplies (about 30%) to Japan, and instituted similar cutbacks to European and American customers.

4.1.2 Non-OPEC Producing Countries

Several non-OPEC crude oil producing countries publicly supported OPEC's efforts to stabilize prices and world oil markets. Angola, Brunei, China, Columbia, Egypt, Malaysia, Mexico, and Oman agreed to cooperate with OPEC by also cutting back production. They proposed reductions of 5% for two months if OPEC did the same. Although no formal agreements were reached at first, these talks set the stage for further discussions which took place throughout the first quarter of 1989.

By February of 1989, six non-OPEC countries formally agreed to cut 5% in exports, which eliminated 200,000 barrels of oil per day from the world market. Although this was a small quantity of oil compared to the 56 million barrels of daily world crude oil production, the psychological impact of the agreement helped to stabilize world oil prices. Other countries such as the Soviet Union and China were also planning to cut crude oil exports in the second half of 1989.

4.1.3 Oil Production Mishaps/Curtailments

A variety of mishaps temporarily closed several production complexes during the Winter and Spring of 1989. As a result, hundreds of thousands of barrels of crude oil and gasoline production were disrupted. These suspensions included:

- o A sudden increase in pressure in an exploration well led to Shell UK shutting down production in the North Sea Brent System as a precautionary measure for two weeks. The result was a loss of 48,000 barrels a day of crude oil.

- o Norway's Ekofisk oil field complex temporarily closed for about a week in mid-March, due to a small fire on a pump in a processing and storage tank. This mishap resulted in a loss of about 245,000 barrels per day of crude oil. Also, North Sea oil producers, in an attempt to bolster prices, cut back production of about 300,000 barrels per day.

- o In addition to these problems, crude oil and refined product disruptions occurred in Venezuela and Columbia, due to civil unrest. The amounts of oil which these events affected were not quantified.

- o On April 9, 1989, there was a fire at a large Chevron refinery in Richmond, California. The Chevron refinery supplies about 10% of the West Coast gasoline supply.

4.1.4 Cormorant Alpha Platform Explosion

On April 18, 1989, a gas leak explosion closed down the Cormorant Alpha Platform, an important link in the North Sea Brent oil field system. As a result, about one-fourth of Britain's oil output - about 472,000 barrels per day - was shut down for about one and a half months. Approximately 100 million barrels of oil were taken off the world markets as a result of this event. Total British output had been running at about 1.8 million barrels per day before the explosion. The

Brent crude is a particularly valuable crude oil for gasoline production. Refiners can make more gasoline from this type of crude oil, because it requires less refining.

After this accident, crude oil prices once again shot up temporarily $3 per barrel. United States prices rose to $23 a barrel, but subsided within a few days and remained at $20 per barrel through the end of May, 1989.

4.1.5 Impact

In all oral testimony and written responses to EOER, oil company representatives and industry analysts attested that a major influence in the increase of gasoline prices was the increase in crude oil costs, primarily due to OPEC's production accord and, to some extent, supply disruptions. Sun Refining and Marketing Company submitted the following statement:

> ". . .[I]t must be recognized that gasoline pricing is the result of several variables, the most heavily weighted being the cost of the raw material - crude oil. Crude oil is traded internationally, and consequently, any event occurring anywhere in the world that impacts on crude oil has an impact on the cost of crude to all refiners."

OPEC's influence on crude oil prices was summarized in a statement submitted by Amoco Oil Company:

> "A significant factor in these crude oil price increases was OPEC's November 1988 production accord, which called for its members to reduce their output by 15 to 20 percent. It is estimated that at the time, the OPEC countries were producing 22 to 23 million barrels of oil per day or about 42 percent of the free world's supply. While many doubted that the accord would be adhered to, many experts now acknowledge that following the accord, the OPEC countries did reduce their crude oil output by 13 percent or about 3 million barrels. In effect, OPEC

> reduced the free world's crude oil supply by about 6 percent, and, as a result, price for crude oil around the world increased."

EOER's investigation, however, showed that the increase in crude oil prices of $7 per barrel or 17¢ per gallon from October 1988 through mid-March of 1989 was barely reflected in Boston terminal wholesale gasoline prices. Wholesale gasoline prices fluctuated somewhat during that period-- from 50¢ per gallon at the beginning of October, 1988, compared to 53¢ per gallon in March, 1989. Wholesale prices then increased about 6¢ per gallon between the first and third week in March, 1989-- just prior to the Exxon Valdez oil spill on March 24, 1989. (See Appendices 1-B and 1-C.) Massachusetts' retail gasoline prices did not increase in that time period, according to EOER's statewide surveys. (See Appendix 1-D.)

When asked why crude oil price increases were not passed on from refiners to wholesalers and retailers, witnesses at the hearings stated that from October through mid-March in a typical year, demand for gasoline is not very high, and competition in the marketplace precludes a price increase at that time. (See Appendix 1-E.) They claimed that, as a result, major oil companies' profit margins were narrower in the last quarter of 1988 and the beginning of 1989 due to the discrepancy between rising crude oil prices, and flat demand and product price for gasoline.

An additional reason mentioned at the hearings to explain the lack of an increase during that time period was the traditional lag time it takes for increased costs to be passed

on from the refinery to the retail level. John Lichtblau, President of the Petroleum Industry Research Foundation, noted that it generally takes one to two months to pass on the costs to retailers.

On the other hand, Platt's Oilgram figures show that wholesale heating oil prices at Boston Harbor terminals increased from 42¢ per gallon in early October, 1988, to 60¢ per gallon by mid-March of 1989 - an increase of 18¢ per gallon. Retail heating oil prices, according to EOER's surveys, also increased from 83¢ per gallon in early October, 1988, to about 93¢ per gallon by the end of January, 1989.

Ed Rothschild from Citizens/Labor Energy Coalition commented as follows:

> "Heating oil is another product that refiners produce. They don't just produce gasoline. [Gasoline] may be half their production, but another 25% or so is number 2 fuel oil. And the [national retail] price in October [of 1988]. . .was 75.3¢, and in January and February [of 1989] it was up to 85¢. That's a 10¢ per gallon increase. So, [refiners] may not have made [a profit] on gasoline in that time, but they certainly made up some of it in higher heating oil prices during the heating season. . . ."

4.2 EXXON VALDEZ OIL SPILL

Alaskan North Slope oil is distributed solely to United States refiners, with the majority of the oil refined on the West Coast in the states of Washington, Oregon and California. California and Washington have a combined total of 2.7 million barrels per day of refining capacity, with nine companies accounting for 80% of the capacity. Of these nine companies,

BP America, ARCO, Exxon and Mobil, with production in Alaska, are most dependent on Alaskan crude oil.

On March 24, 1989, an Exxon-owned tanker, the Exxon Valdez, ran aground on Bligh Reef in Prince William Sound, Alaska, spilling 250,000 barrels of crude oil. As a result, the port was closed to tanker traffic for four days, and Alaskan North Slope crude oil shipments through the Trans-Alaskan Pipeline System were reduced to 800,000 barrels per day from the normal 2 million barrels per day. Although the port was re-opened quickly, tanker traffic was restricted to daylight hours with a requirement of a two-tug escort. These rules were set by the Coast Guard and remained in effect for a few weeks.

It was estimated that a total of 12.5 million barrels was ultimately taken off the U.S market as a result of the spill. In terms of quantity, 12.5 million barrels is a small amount compared to the crude oil cutbacks of 3 million barrels per day imposed by OPEC, or the approximately 100 million plus barrels suspended after the North Sea Cormorant Alpha Platform explosion later in April, 1989. A major difference, however, between the Alaskan oil spill and production losses in the North Sea was the extensive and daily media coverage of the accident.

The publicity of the environmental and economic severity of the accident, as well as the indecision regarding the port's re-opening, led to perceptions in the oil market of potential

shortages of crude oil and gasoline, particularly on the West Coast.

4.2.1 Exxon and BP Declare Force Majeure

On March 30, 1989, a few days after the Exxon Valdez oil spill, Exxon and BP declared "force majeure" on their April Alaskan North Slope oil deliveries. ("Force majeure" is a contract provision which protects a party in the event that an act outside of its control occurs, which could not be avoided by the exercise of due care, and which prevents the party from fulfilling its obligations under the contract. It is most often declared as the result of an "Act of God," or natural disaster such as a hurricane.)

Exxon originally announced a 15-20% cut in Alaskan North Slope deliveries, affecting six West Coast refiners. On the same day, BP North America stated that it expected to cut back roughly 20% (164,000 barrels per day) on its Alaskan crude oil deliveries to West Coast refineries, due to shipment delays and output curtailments resulting from the Exxon Valdez oil spill.

In deference to Exxon and BP, John Lichtblau, President of the Petroleum Industry Research Foundation, reasoned at the hearing that Exxon may have declared force majeure to prevent hoarding of product - an act whereby a customer buys more than his normal volume of gasoline in anticipation that tight supplies and increased demand will drive up prices, then sells the product at a much higher price. Lichtblau stated that such

a scenario would have driven gasoline prices even higher.

Questions arose in the investigation as to the impact of force majeure on crude oil and gasoline prices. John Lichtblau offered the following opinion on this:

> "There's no question. . . .[that invoking] force majeure. . .creates uncertainties. It is a sign that there is something wrong in the system, otherwise you don't do it. But, of course, there was something wrong with the system--we had a major reduction in oil production for a brief period. Nobody quite knew how long it would last. . . .Whenever you declare force majeure it has an impact on the market, particularly if it's done by a very large company and it's widely publicized, because it's a sign that the system doesn't work."

Although the declarations of force majeure were lifted soon, and Exxon testified that it was able to offer 100% contract volume to its customers for the month of April, 1989, the fact that force majeure had been implemented created panic in the market, and a continuing ripple effect through May, 1989.

Exxon's declaration of force majeure after the Valdez accident raises an interesting legal question: was it appropriate for Exxon to be able to invoke force majeure to avoid fulfillment of a contract obligation, when the incident in question could have been prevented by exercise of due care on Exxon's part? Since Exxon subsequently did fulfill its contract obligations, the question in this particular case is now moot, but the basic question remains.

The declaration of force majeure also raises a second question that is even more troubling. Since Exxon and BP must have known that the declaration would result in uncertainty in

the marketplace that would lead to higher prices (and profits), did this knowledge play a role in their decisions to declare force majeure?

4.2.2 Diversion of Product

Perceptions of product shortages on the West Coast led to temporary increases in the wholesale and retail prices of gasoline on the West Coast. Platt's Oilgram statistics showed that Los Angeles wholesale gasoline prices at the rack had started to increase from 59¢ to 72¢ per gallon from the beginning of March 1989, to the Exxon Valdez oil spill on March 24, 1989. (See Appendix 1-F.) In the two weeks after the spill, wholesale terminal prices shot up, on average, 29¢ per gallon to reach a price of $1.00 per gallon in Los Angeles.

Since West Coast wholesale gasoline prices were 30-35¢ per gallon above other markets, it was more profitable for some refiners to sell gasoline on the West Coast than in regular markets. Many witnesses confirmed that gasoline products destined for other areas of the country were temporarily diverted to the West Coast. Sun Oil Company submitted the following statement:

> "The Valdez spill created a temporary price spike as a result of the temporary closing of the Port of Valdez. Although Alaskan crude does not supply the Northeastern market, crude [oil] and [other gasoline] product[s] from the Gulf Coast that normally [go] to the Midwest and Eastern markets were diverted to the West Coast during the shutdown of the Alaskan pipeline."

4.2.3 "Panic Buying" on the Spot Market

The issue of uncertainty of availability of crude oil and gasoline supplies led to "panic buying" on spot markets. The spot market is a non-contractual market, sometimes referred to as the "cash market," wherein one can buy gasoline from parties with whom one does not have a contract or obligation to buy.

Wholesale spot gasoline costs on the West Coast went up 30-35¢ a gallon, reaching a high of $1.25 a gallon. On the New York Harbor spot market, prices rose about 10-11¢ to a level of 68¢ per gallon in the week following the Exxon Valdez oil spill. New York Harbor prices leveled off, and then increased another 9¢ per gallon by mid-April. (See Appendix 1-F.)

At the hearings, wholesalers testified that the New York Harbor spot price increases affected wholesalers selling gasoline in Massachusetts, because they purchase gasoline on the spot market. In addition, some wholesalers stated that although they have contracts with foreign refiners to buy gasoline, the contract price formulas are directly related to the New York Harbor spot gasoline prices. Star Enterprises, a major refiner as well as a wholesaler, stated that it does not manufacture as much gasoline as it sells and is therefore forced to compete in the spot marketplace for higher-priced gasoline.

4.2.4 Speculation on the Futures Market

Following the Alaskan oil spill, speculators "played" the futures market in anticipation that crude oil and gasoline prices would increase.

Futures are contracts for delivery of a specified quantity of a commodity on a specified date in the future at a price which is established in the market when the contract is executed. Unleaded gasoline has been traded on the New York Mercantile Exchange since December, 1984.

Futures contracts can be utilized to "hedge" against future price and supply uncertainty. Most large integrated oil companies such as Mobil and Exxon do not hedge on the futures market. Instead, hedging is typically used by gasoline wholesalers to minimize the impact of fluctuation on their inventory values or future acquisition costs.

For example, a gasoline wholesaler with millions of gallons of inventory does not want to lose money if the price of gasoline drops, and his inventory declines in value. To protect himself, the wholesaler might sell a gasoline futures contract at a higher price than the current gasoline market price. If the physical product declines in value, the wholesaler offsets the loss on his actual inventory when he liquidates his future contract, and thus makes a profit.

The futures market can also be used to "speculate" on an expected price trend. Most speculators in commodity futures are not involved in the actual business of the commodity, such

as refining or selling gasoline. They use the futures market solely for the purpose of making a profit.

4.2.5 Impact

Data gathered by EOER in its investigation and at the hearings suggest that the events cited above had a great impact on the West Coast gasoline market, with a slight effect on the East Coast market, because New England receives most of its gasoline product from refineries in the Gulf Coast and East Coast, which do not rely on Alaskan crude oil.

The question remained, however, why Boston terminals' wholesale gasoline prices rose dramatically after the Alaskan oil spill through mid-April, from 58¢ to 73¢ a gallon - an increase of 15¢ per gallon in only 2-1/2 to 3 weeks. When questioned at the hearings about this increase, Joseph Tomaino of Concord Oil Company, a gasoline wholesaler, stated:

> ". . .[M]y own personal opinion is that it was the tragic Alaskan oil spill that provided the psychological impact for the rate of increase. I think it set the scene for the type of panic buying. . . that was the cause of the rate of increase, not the amount of increase."

Most witnesses agreed that the earlier crude oil cost increases would have been passed on eventually by the major oil companies to consumers, but at a slower rate, perhaps, throughout the summer months. However, all industry analysts agreed that the Alaskan oil spill provided the major oil companies with the opportunity to recoup costs from earlier crude oil price increases. EOER concluded that the oil

companies had used the Valdez accident as an excuse to increase prices rapidly and increase their profit margins. (See Appendix 1-G.)

4.3 RVP STANDARDS

One "non-traditional" element which played a role in the Spring of 1989 price increase was the implementation of the new Reid Vapor Pressure (RVP) standards for gasoline. RVP is a measure of the volatility in gasoline, and is expressed in pounds per square inch (psi). Reducing the RVP of gasoline reduces the amount of emissions that contribute to the ground-level ozone problem. Massachusetts has been particularly concerned about gasoline volatility, because the Commonwealth has exceeded the Clean Air Act ozone limits many times in the past few years. (See Appendix 1-H.)

4.3.1 Background

As refiners phased out lead from gasoline in the 1970s, they began to add butane to the product to meet octane requirements. The consequence of adding butane to the product was a substantial increase in the volatility of gasoline. As a result, summertime volatility levels in the Northeast have been excessive.

Mindful of the damaging effects of increased ozone, eight states in the Northeast region--represented by Northeast States For Coordinated Air Use Management (NESCAUM)--resolved

to develop a volatility strategy. Their actions are described in the NESCAUM June 1989 Fact Sheet:

> "The NESCAUM Directors agreed to pursue consistent gasoline volatility limits in December 1986 and announced their proposal in a press release on February 23, 1987. NESCAUM sponsored a Regional Gasoline Volatility Forum on April 27, 1987 to receive comments from interested parties on the Northeast states' proposal to reduce gasoline volatility. The Environmental Commissioners in the Northeast states signed a Memorandum of Understanding on November 17, 1987 stating their intention "to propose a gasoline volatility control program." Beginning in January 1988, states held public hearings and adopted regulations according to their administrative procedures. Massachusetts was the first to adopt the new standards in April of 1988."

Anticipating supply concerns on the part of petroleum companies, NESCAUM commissioned two independent studies to review the impact of the proposed 9 RVP standard. The reports were developed by Poten and Partners, and J. Faucett Associates, and concluded that supplying adequate quantities of gasoline would not be a problem in the Spring of 1989.

Following these state actions, the United States Environmental Protection Agency (EPA) adopted federal gasoline volatility regulations in March of 1989 which restrict RVP levels to 10.5, 9.5, or 9.0, depending on the area of the country and the month of the year. (See Appendix 1-I.)

To implement stricter RVP standards, states must apply to EPA for a waiver. Massachusetts, Rhode Island, Connecticut, New York, and New Jersey have all received approval for their waivers. Maine and Vermont have also requested waivers. To

avoid supply disruptions, the EPA delayed the start date for this year from May 1st to June 30th. For 1990, the start date will be May 1.

4.3.2 Concerns

Major oil companies and local wholesalers voiced concerns that the new RVP standards would lead to difficulty in obtaining adequate supplies, distribution problems, added cost to replace the butane in the product, and added cost to prepare tanks for the new gasoline. The uncertainty which surrounded the different implementation dates contributed to unease in the market. Wholesalers originally estimated that prices would rise 5-8 cents per gallon due to the new regulations. One economist, Phil Verleger, estimated that prices would increase 10-20 cents per gallon due to the 9 RVP standard. One newspaper columnist attributed the entire Spring 1989 price increase to the new RVP standards.

Several panelists who attended EOER's gasoline investigation hearings offered responses to these concerns, summarized in the following three sections.

4.3.2.1 Cost

Louis Gitto, Director of the Air Management Division of EPA, testified that the agency had performed a regulatory impact analysis for the national regulation.

This analysis indicated:

> ". . .[A] projected overall cost impact on the consumer of .31 cents per gallon. That's one third of a cent per gallon. This estimate is made up of two components: First, an average price increase of .54 cents per gallon, and second, an average .23 cents per gallon fuel economy credit price decrease."

With respect to the lower Massachusetts RVP standard, Mr. Gitto agreed with Massachusetts environmental officials that the price impact would be about two to three cents a gallon.

4.3.2.2 Supply

EPA commissioned its own study (by Sabotka and Company, Inc., Washington) in addition to the two NESCAUM studies, to assess the potential cost and supply issues associated with the volatility control program. Louis Gitto of EPA summarized the conclusions in those studies by stating that:

> ". . .All studies indicate that gasoline supplies this summer are likely to be tight, but that no serious problems in refining and distribution systems are likely."

In the Addendum to the Poten and Partners study, the authors referred to the ability of foreign refiners to supply 9 RVP to the Northeast in the Summer of 1989:

> "Foreign refiners not only know about the 9 RVP rules, we see them standing in line to sell the less volatile product. Clearly, they see a chance to make some money. Virtually every customary European supplier, for instance, has indicated will and ability to meet the 9 RVP standard this Spring . . . .Foreign refiners do not seem to face any difficult or time-consuming adjustments to make 9 RVP US-spec mogas. Some of them would ship that quality of product in February--the earliest availabilities currently discussed. Others will work it into their March and April programs."

Representatives from the major oil companies, regional wholesalers, and industry analysts concurred that supply would not be a problem for the foreseeable future.

Commissioner Greenbaum of DEP also noted that if there were unexpected circumstances which led to a supply disruption and subsequent shortage, it would be within his authority as Commissioner to declare an emergency and relax the RVP regulations, thereby removing any uncertainty in the market about supply problems.

4.3.2.3 Timing

Several of the oil company representatives had stated that the EPA took too long to rule on the RVP standards, and that the uncertainty about start dates added additional costs to gasoline. Secretary Pollard asked the environmental witnesses to respond to this concern. Speaking for DEP, Barbara Kwetz stated:

> "Massachusetts started the regulatory process in 1987, and there was significant publicity about the whole strategy. It was the first time states tried to look at it as a regional program. . . In our original hearing proposal we called for a two-phased program. . . We asked for 10.5 in the summer of 1988 and 9 in 1989. We also asked at the time for comments from the oil industry about the feasibility of even going below 9; we asked for comments on 8 RVP. . . In the foot and a half worth of comments we received from the industry, it became clear that going to 10.5 in 1988 was difficult and would leave Massachusetts out on a limb. . . .[I]n our final promulgation, we [decided to] go to 9 in 1989. And that gave them about. . .a year, a year and a half, to do whatever [was necessary to be in compliance, in terms of] their supplies or any capital improvement they would

> have to make. And [we] made it very clear that the other states would be pursuing comparable types of regulatory agendas, too."

Commissioner Greenbaum added that Massachusetts had joined other states to work on this strategy, in order to create a regional market for 9 RVP gasoline, as opposed to a confusing patchwork of regulations.

Michael Bradley of NESCAUM stated that he found it interesting that the oil companies had raised complaints about the lack of time, because they had adamantly opposed state and federal regulations, and therefore had contributed to the delay.

4.3.3 Impact

Every witness who appeared before the gasoline investigation panel concluded that, despite initial concern over the impact of the new environmental regulations, the new RVP standards would result in not more than a 1 to 3 cent per gallon increase. EOER's own research confirms that finding.

4.4 SEASONAL DEMAND

Historically, wholesale and retail gasoline prices start to climb in the spring as the "driving season" begins and demand for gasoline increases. Typically, retail prices start to rise just prior to Memorial Day Weekend.

Concord Oil Company, a gasoline wholesaler which sells to service stations, stated:

> "[I]n 1988, during the period from March 1 through May 1, we saw our average price for product at the rack go

up by 6¢ per gallon. That's a typical, seasonal type of price increase. The prices we charged our dealers--our dealer tank wagon price--during that time period went up 4¢ a gallon."

Exxon Company stated:

"Gasoline prices are seasonal, and normally increase relative to crude [oil prices] in the spring as suppliers prepare for the summer driving season. Seasonal gasoline price changes relative to crude oil ranged from 1 to 6¢ per gallon over the last four years."

One retailer stated:

"For 30 years, every time I have a holiday coming up I can almost guarantee I get a letter [from the oil company] that says as of 12:01, the price of gasoline goes up three cents. And that's usually three days before the holiday."

When questioned about the role seasonal demand might have played in gasoline price increases, oil companies, wholesalers, and industry analysts generally agreed that seasonal demand alone played a small part in the price increases. It is difficult for EOER to distinguish the role of seasonal demand, if any, in light of the implementation of the RVP standards which occurred at the same time as normal seasonal demand.

4.5 CONCLUSION

After reviewing the data collected in its investigation, and the testimony of witnesses who appeared at the public hearings, EOER concluded that all of the issues discussed above--the crude oil price increase; new environmental standards for gasoline; seasonal demand; and the Exxon Valdez

oil spill--had some impact on gasoline prices. EOER's primary conclusion, however, was that the major oil companies had used the Valdez accident as an excuse to raise prices and increase their profit margins. EOER then made the Findings and Recommendations presented below in Section 5.0 of this Report.

5.0 FINDINGS AND RECOMMENDATIONS

FINDING #1: The Exxon Valdez accident on March 24, 1989 in Alaska's Prince William Sound did not cause a supply disruption sufficient to justify the rapid and sudden increase in the price of gasoline. Rather, major oil companies took advantage of the public awareness and psychological impact of the Valdez spill to increase their profit margins.

EOER's investigation demonstrated that there were several legitimate and predictable reasons for the increase in gasoline prices, including the higher cost of crude oil, the implementation of tougher environmental standards, and traditional increases due to seasonal demand. The Valdez accident did result in a short-lived disruption in supply to the West Coast, but it cannot be blamed for the amount of the price increase. Since the major refiners had not yet passed on to the consumer the cost of the legitimate and predictable increases already mentioned, their profit margins were not as high as they had been in the previous year. Exxon Valdez provided a convenient, highly visible excuse for raising prices dramatically in a very short period, thus pushing refiners' profit margins to even higher levels.

RECOMMENDATION 1A: Consumers should be informed that the Exxon Valdez accident was not the true cause of the sudden gasoline price spike, but that it was used as an excuse to further increase oil company profits.

RECOMMENDATION 1B: Although the Exxon Corporation was not directly responsible for the rapid price increase, it should not be allowed to burden consumers further with the cost of the clean-up in Prince William Sound. Congress should take immediate steps to enact legislation to ensure that the Exxon Corporation (or any other corporation involved in a similar accident in which there is a clear indication of corporate negligence) bears full financial responsibility for the costs of the cleanup, and that such costs may not be passed on to consumers, either directly through fuel prices or indirectly through a write-off on the corporation's taxes.

FINDING #2: While the major oil companies increased their profit margins following the Valdez accident, retail service station operators generally did not.

Local gasoline retailers, who often receive the brunt of consumer anger when prices rise, generally did not take advantage of the Valdez accident to increase their profit margin. Between the end of 1988 and June of 1989, gasoline dealer margins remained fairly constant, while oil refiner margins almost doubled. This indicates that local gasoline retailers, unlike the major refiners, were not increasing their profits at the expense of consumers. It also indicates that the greater degree of competition at the retail level helps to protect consumers from local price-gouging.

RECOMMENDATION 2A: Consumers should be informed that local retailers were not responsible for the sudden and rapid increase in gasoline prices in the Spring of 1989.

FINDING #3: Gasoline is a vitally important commodity to the American consumer, but the federal government has done little to ensure that adequate supplies of gasoline will be available to consumers at prices that are fair and reasonable.

The federal government for at least the past eight years has embraced a fundamentalist "free market" approach to the oil industry. During this same period, the percentage of our oil imported from foreign nations has grown, making us more vulnerable than ever to the whims of OPEC. Major oil companies have indulged in the merger and acquisition mania, reducing the number of companies competing in the marketplace. Gasoline (and home heating oil as well) has been traded by speculating investors on the New York Mercantile Exchange in much the same way as pork bellies, leading to instability and volatility in prices that do not always have justification in reality. And the supply of gasoline is so tight that a single disruption such as the Valdez accident or a refinery fire can cause panic-buying and hoarding of supplies, which force prices even higher.

RECOMMENDATION 3A: The federal government must recognize that gasoline and home heating oil are necessities of life, and that government therefore has an affirmative duty to ensure that these commodities are available to the American people in

adequate supply and at reasonable prices. The federal Department of Energy should immediately convene a task force consisting of representatives of the Department of Justice, the Federal Trade Commission, the Securities and Exchange Commission, and the Commodity Futures Trading Commission, to review the competitiveness of the nation's oil industry. The federal anti-trust laws should be reviewed to determine: (1) if any violations are now occurring in the nation's oil industry, and (2) whether the anti-trust laws themselves are adequate to protect the American consumer from the unfettered operation of the marketplace. If any company is found to have fixed prices in violation of the law, it should be required to rebate to consumers any overcharges.

RECOMMENDATION 3B: The Massachusetts Executive Office of Energy Resources should continue its periodic monitoring of price and supply of gasoline and home heating oil in the Commonwealth, and should explore ways to coordinate that effort with Energy Offices in the other New England states.

FINDING #4: The implementation of stricter environmental standards was responsible for, at most, a one-to-three cents per gallon increase in the price of gasoline.

Despite earlier assertions by the major oil companies, the implementation of stricter Reid Vapor Pressure (RVP) standards both for the nation and for the northeast states was not responsible for a major price increase in the Spring of 1989.

Implementation of the stricter standards will have a significant positive impact on summer air pollution problems, and the increase of one-to-three cents per gallon appears to be justifiable.

RECOMMENDATION 4A: The Executive Office of Energy Resources should continue monitoring gasoline supply and should coordinate efforts with the Department of Environmental Protection in determining what actions could be taken to adjust environmental standards in the event of a gasoline supply disruption.

RECOMMENDATION 4B: When formulating new environmental safeguards affecting gasoline or gasoline stations, the Department of Environmental Protection should continue to carefully consider impacts on the price and supply of gasoline.

FINDING #5: The most effective way to reduce our vulnerability to the price and supply uncertainties of the gasoline market is to reduce our consumption of gasoline and to use existing supplies more efficiently.

RECOMMENDATION 5A: The Federal Government should promote policies and programs to encourage the conservation and more efficient use of gasoline. At a minimum, the following steps should be taken:

- Corporate average fuel economy (CAFE) standards should be raised to ensure that new vehicles are progressively more fuel efficient.

- The use of alternative motor fuels and fuel enhancers should be vigorously promoted, and the Alternative Motor Fuels Act of 1988 should be fully implemented.

- Funding should be increased for commuter alternatives to private automobiles, such as commuter rail, urban mass transit systems, and private voluntary arrangements such as van-pooling.

RECOMMENDATION 5B: State government should continue to promote policies and programs to encourage the conservation and more efficient use of gasoline. At a minimum, the following steps should be taken:

- The Executive Office of Energy Resources and the Executive Office of Transportation and Construction should continue to provide funding for commuter van-pooling programs. Special emphasis on van-pools to the City of Boston will help to alleviate traffic congestion during the upcoming reconstruction of the Central Artery.

- An inter-agency task force should be convened, consisting of representatives from the Executive Office of Energy Resources, the Executive Office of

Transportation and Construction, the Massachusetts Bay Transportation Authority, the Executive Office of Environmental Affairs, and the Legislature's Joint Committees on Energy and Transportation. This task force should be charged with developing specific policies and programs to encourage the conservation of gasoline in ways that will reduce our vulnerability to supply and price disruptions, while improving the flow of traffic and reducing air pollution.

- The Executive Office of Energy Resources should investigate what California and other states are doing to promote the use of alternative fuels in motor vehicles.

- The Massachusetts Legislature should enact H.5914: An Act Reducing the Greenhouse Effect by Promoting Clean and Efficient Energy Resources. This bill includes measures designed to promote the use of energy-efficient vehicles.

RECOMMENDATION 5C: The major oil companies should cease their misleading marketing campaigns that encourage consumers to purchase higher octane gasoline than their cars require. The current "octane race" serves only to further reduce the supply of gasoline, while putting even higher profits in the pockets of the

major oil companies. The oil companies should abide by the spirit as well as the word of the law of "truth in advertising," and let consumers know that there is no need to buy a higher octane gasoline than their cars require to perform adequately. This message should also be conveyed to consumers by the Federal and State governments.

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY RESOURCES

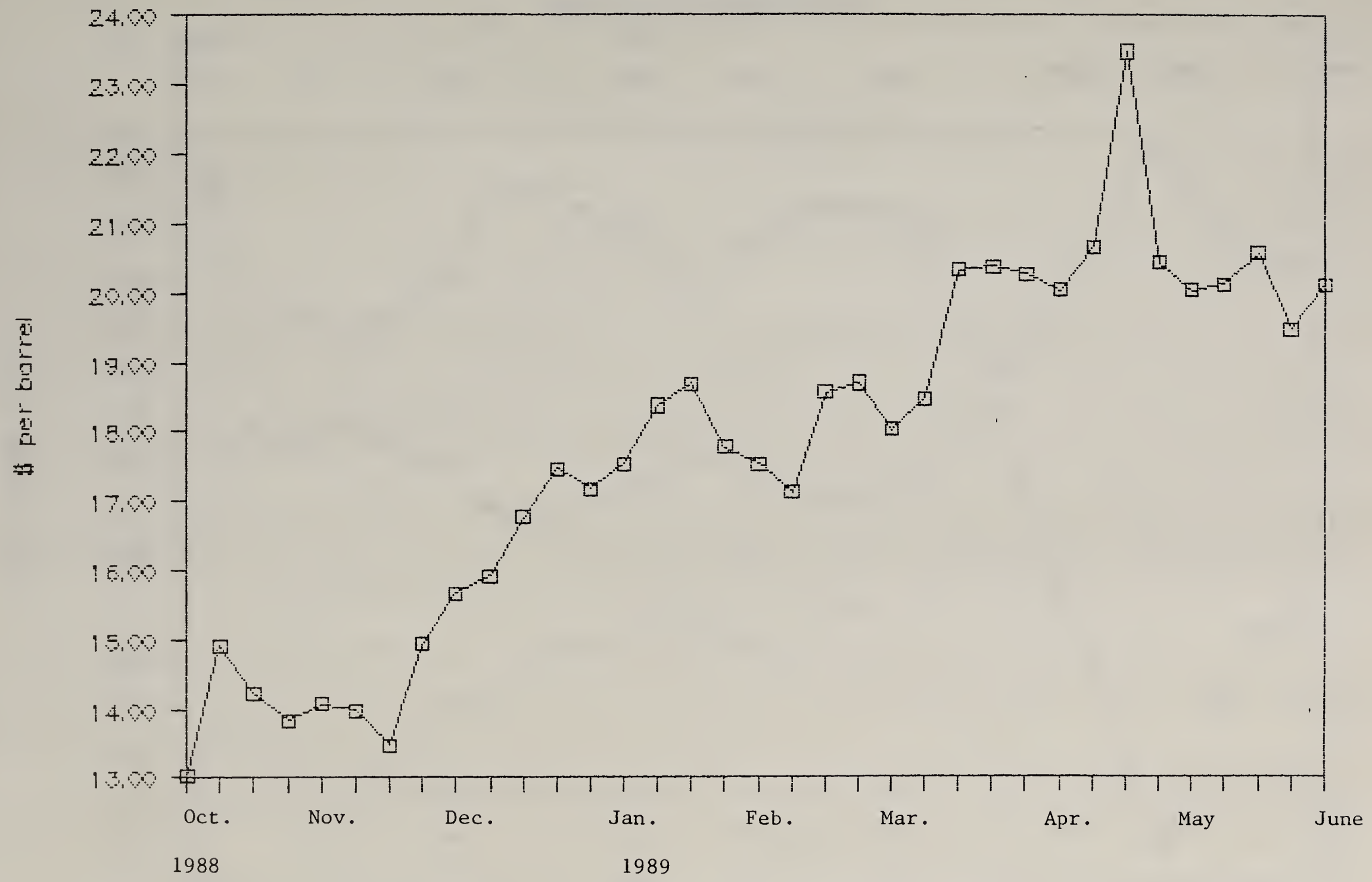
INVESTIGATION OF GASOLINE PRICE INCREASES

25 July 1989

APPENDICES

West Texas Intermediate

Crude Oil Prices

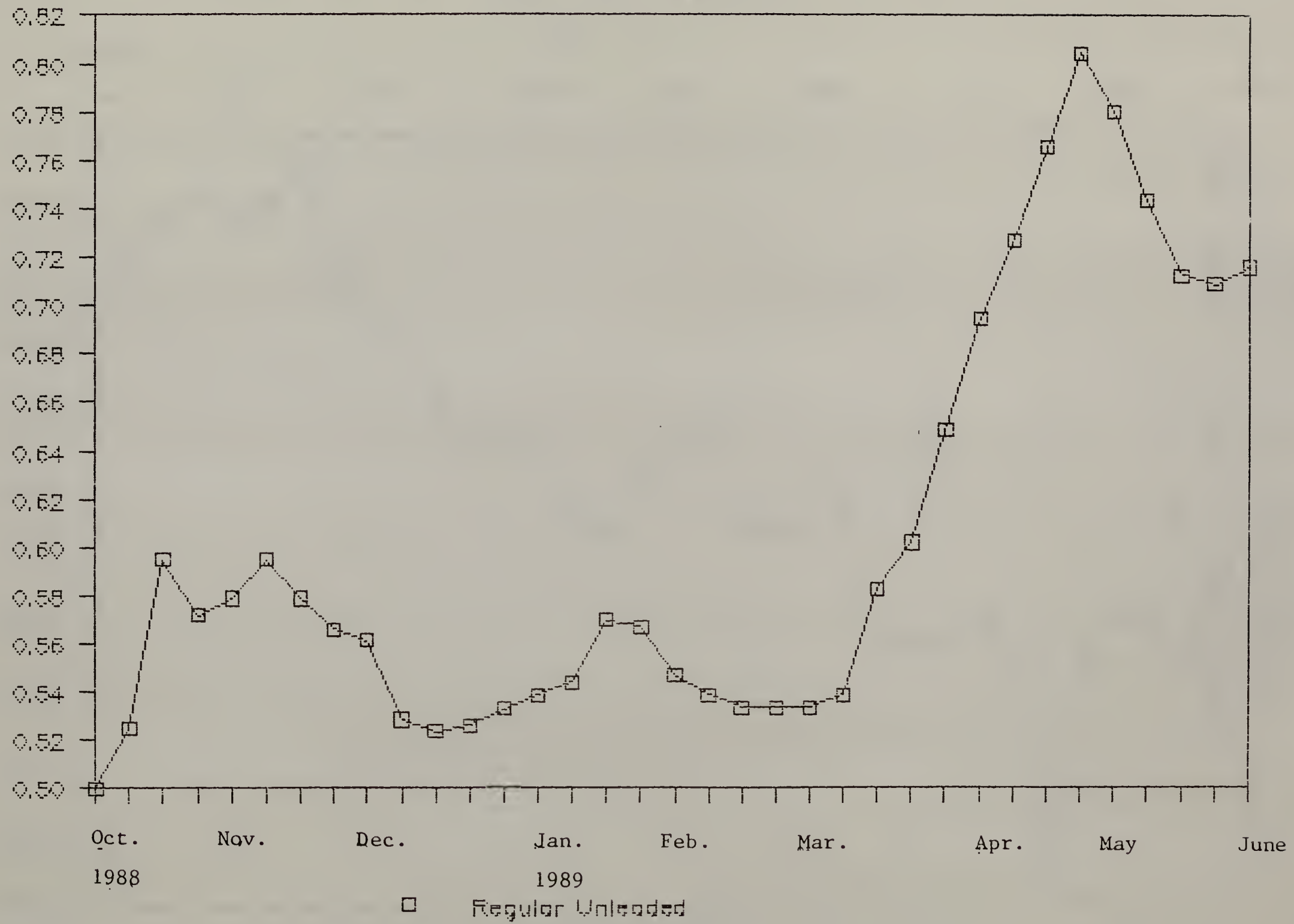


Source: Selected issues Platt's Oilgram Price Report

Appendix 1-A

Wholesale Gasoline Prices

Boston Harbor Terminals

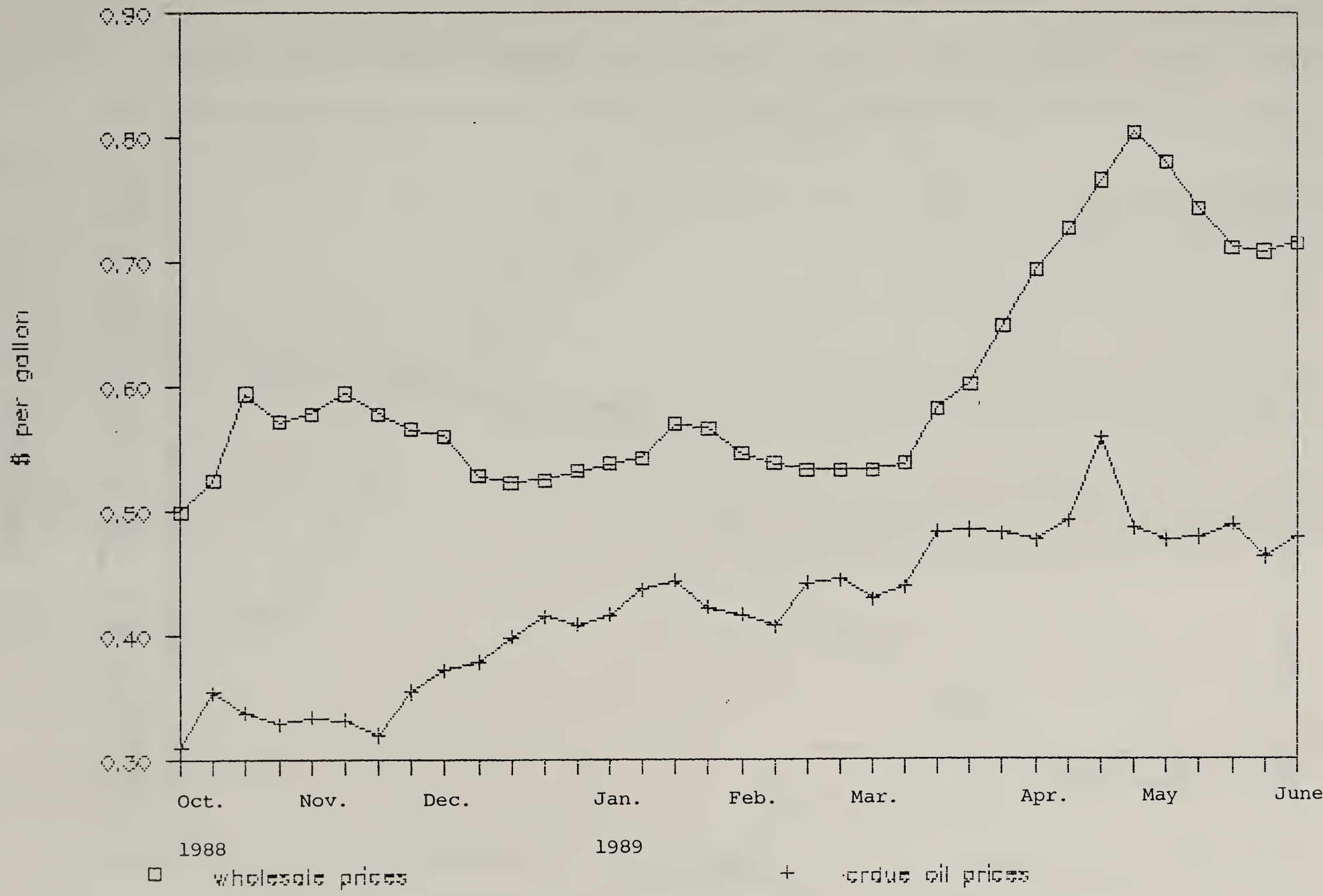


Source: Selected issues Platt's Oilgram Price Report

Appendix 1-B

Boston Wholesale Gasoline Prices vs

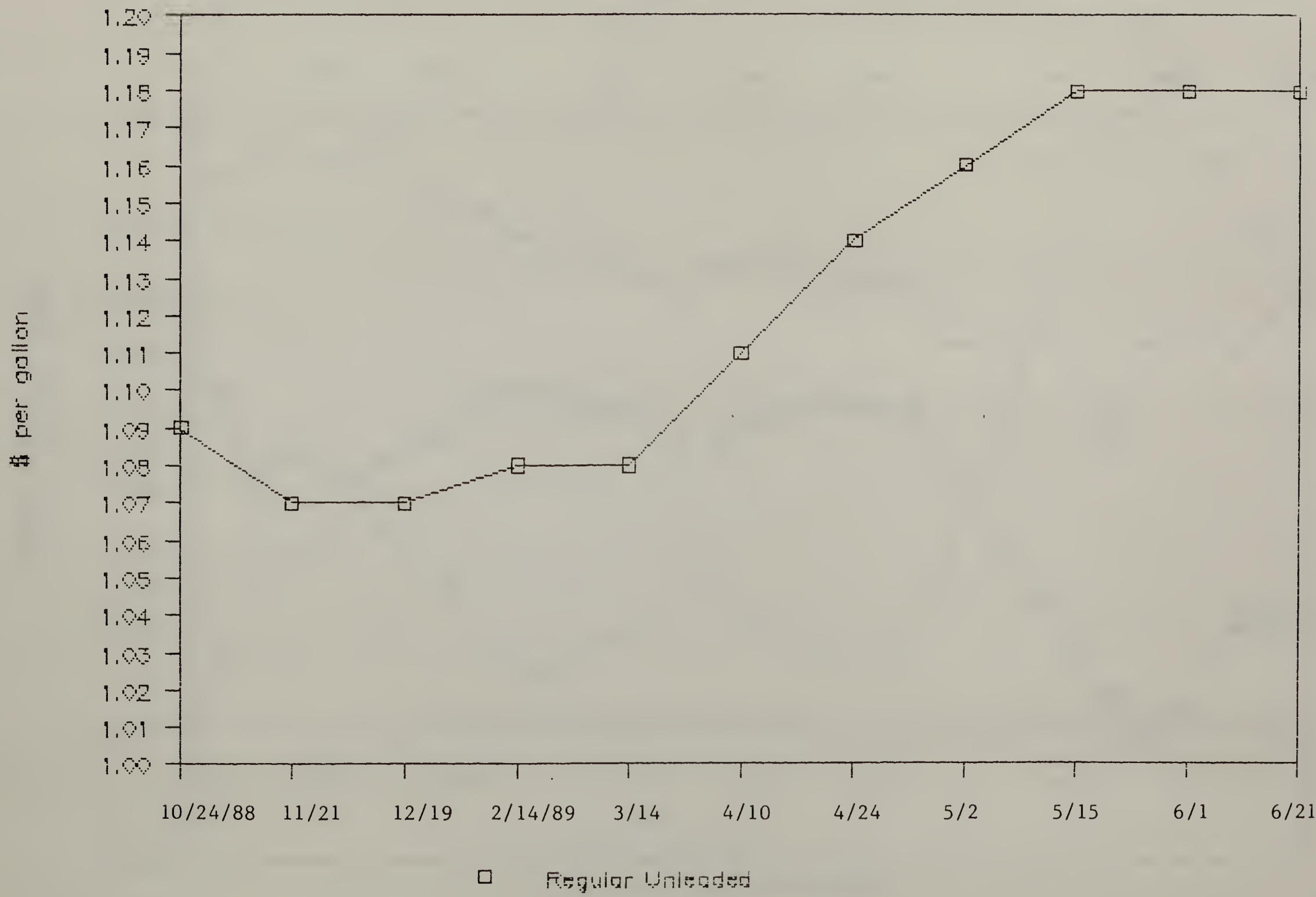
West Texas Crude Oil Prices



Appendix 1-C

MA Retail Gasoline Prices

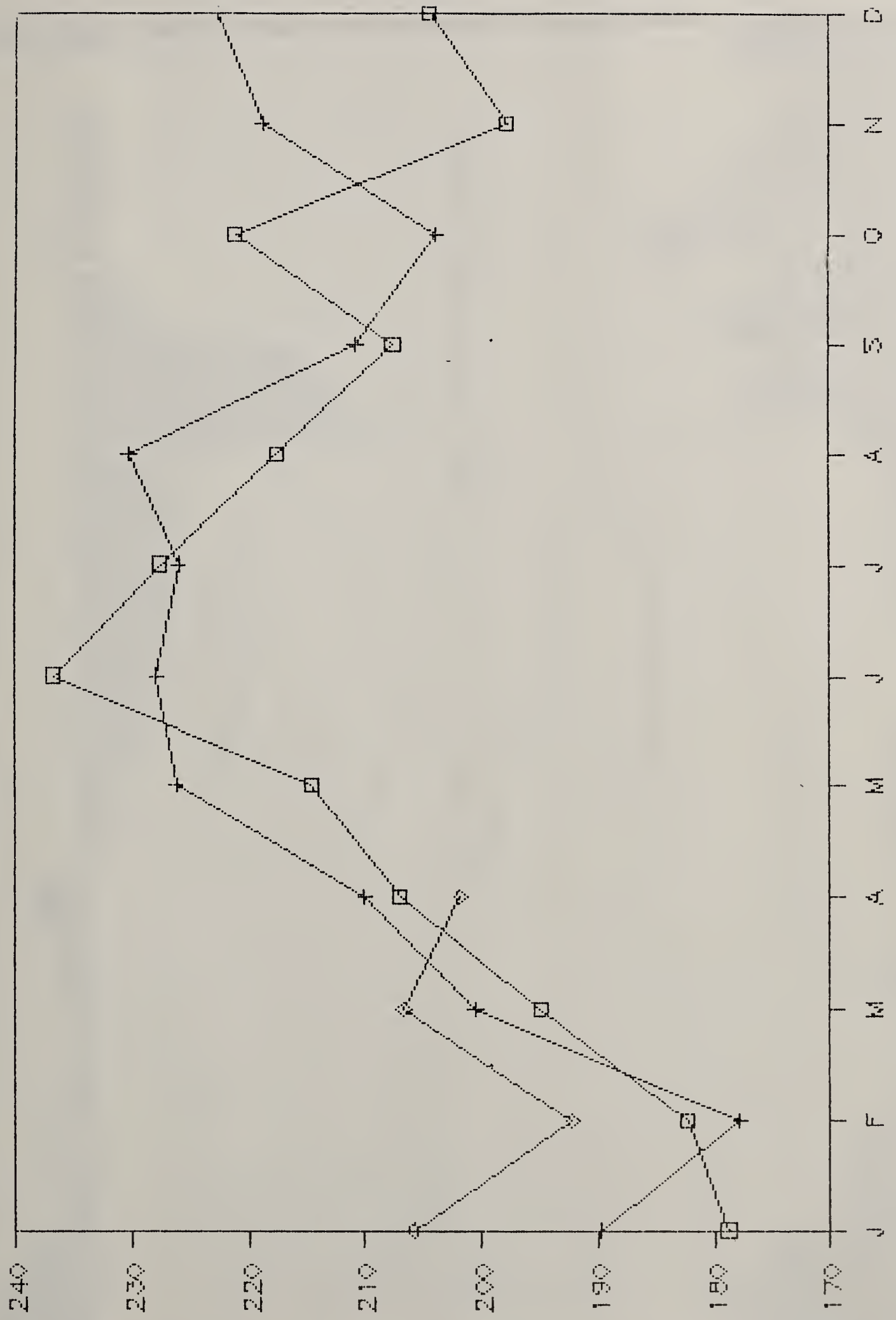
Full Service



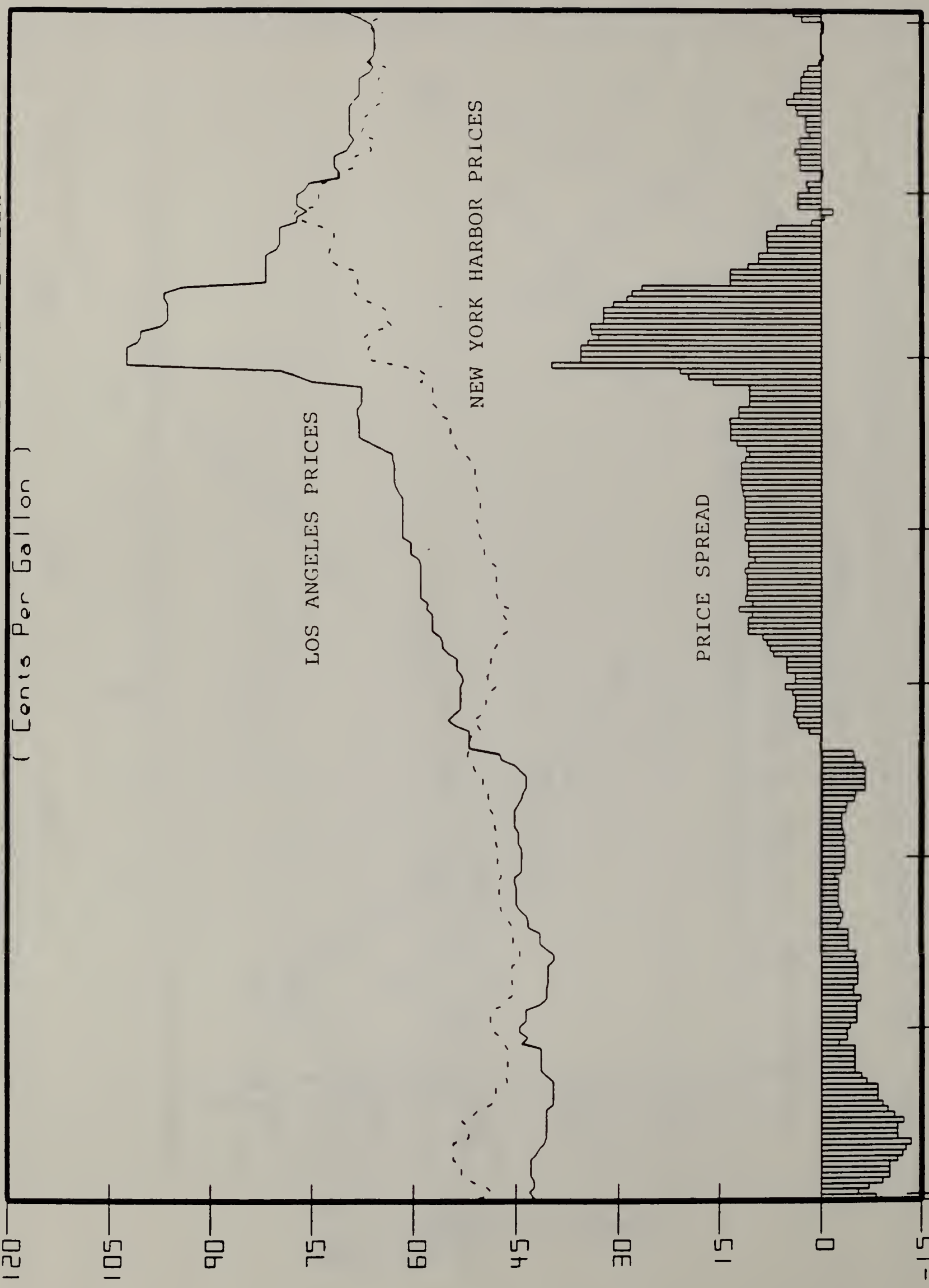
Source: EOER's surveys

Appendix 1-D

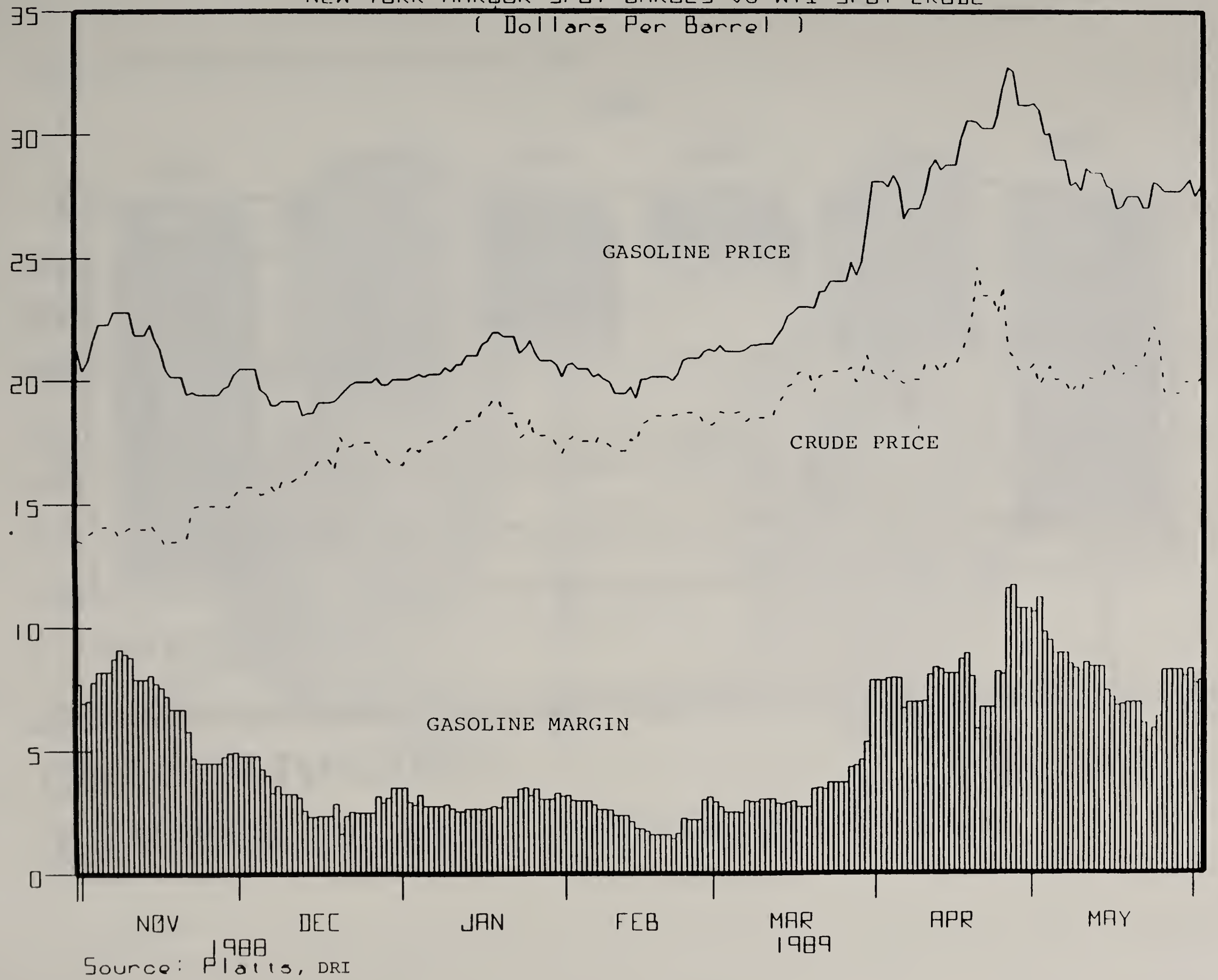
Massachusetts Gasoline Demand



Source: DOE/EIA 782C Forms


GASOLINE PRICES
LOS ANGELES SPOT PIPELINE AND NEW HARBOR SPOT BARGES
(Cents Per Gallon)
LOS ANGELES PRICES
NEW YORK HARBOR PRICES
PRICE SPREAD
120
105
90
75
60
45
30
15
0
-15
NOV
DEC
JAN
FEB
MAR
1989
APR
MAY
Source: Platts, DRI

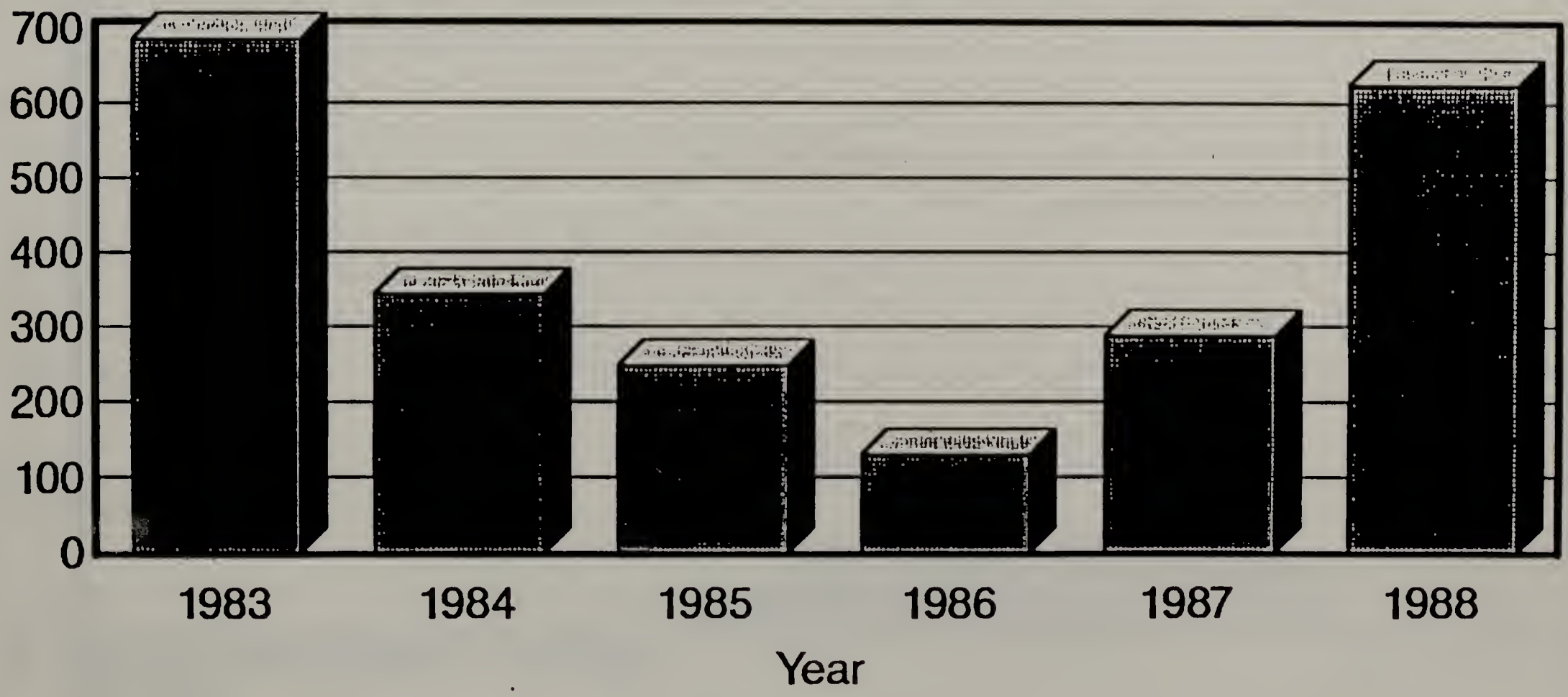
GASOLINE MARGINS
NEW YORK HARBOR SPOT BARGES vs WTI SPOT CRUDE
(Dollars Per Barrel)



Source: Platts, DRI

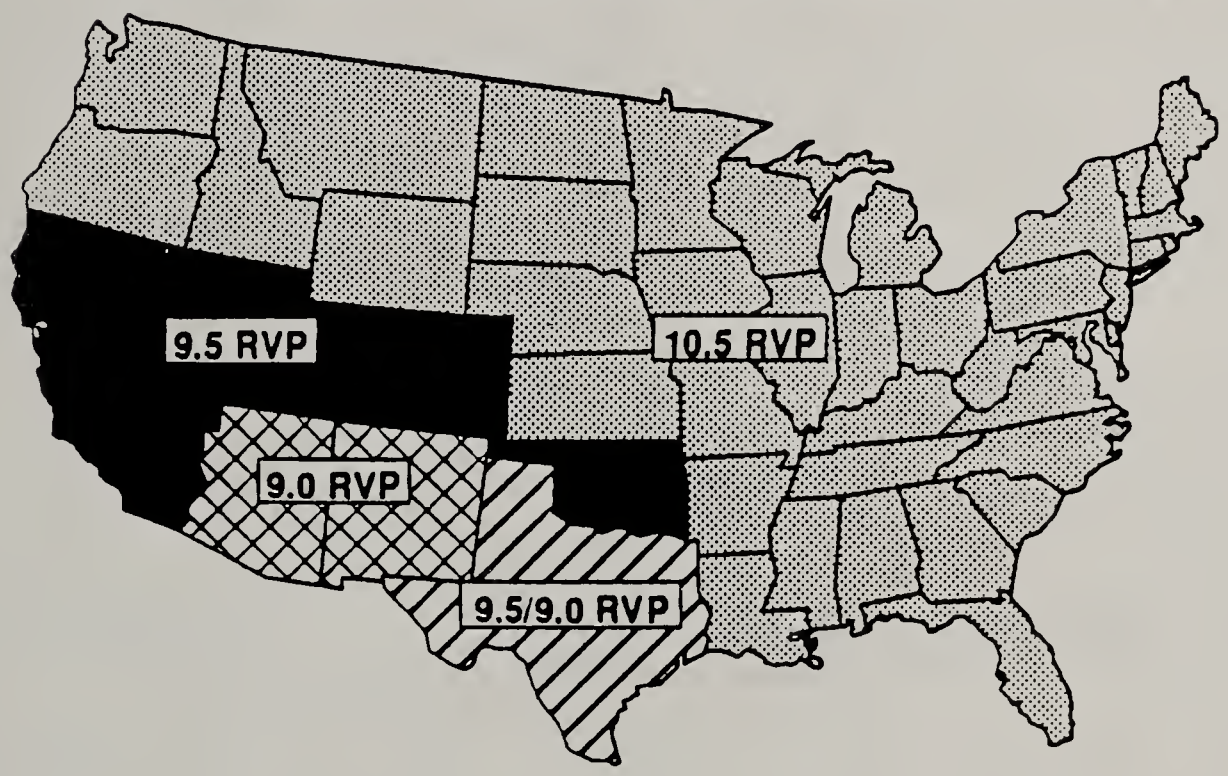
Appendix 1-G

Number of Site Exceedances In the Northeast

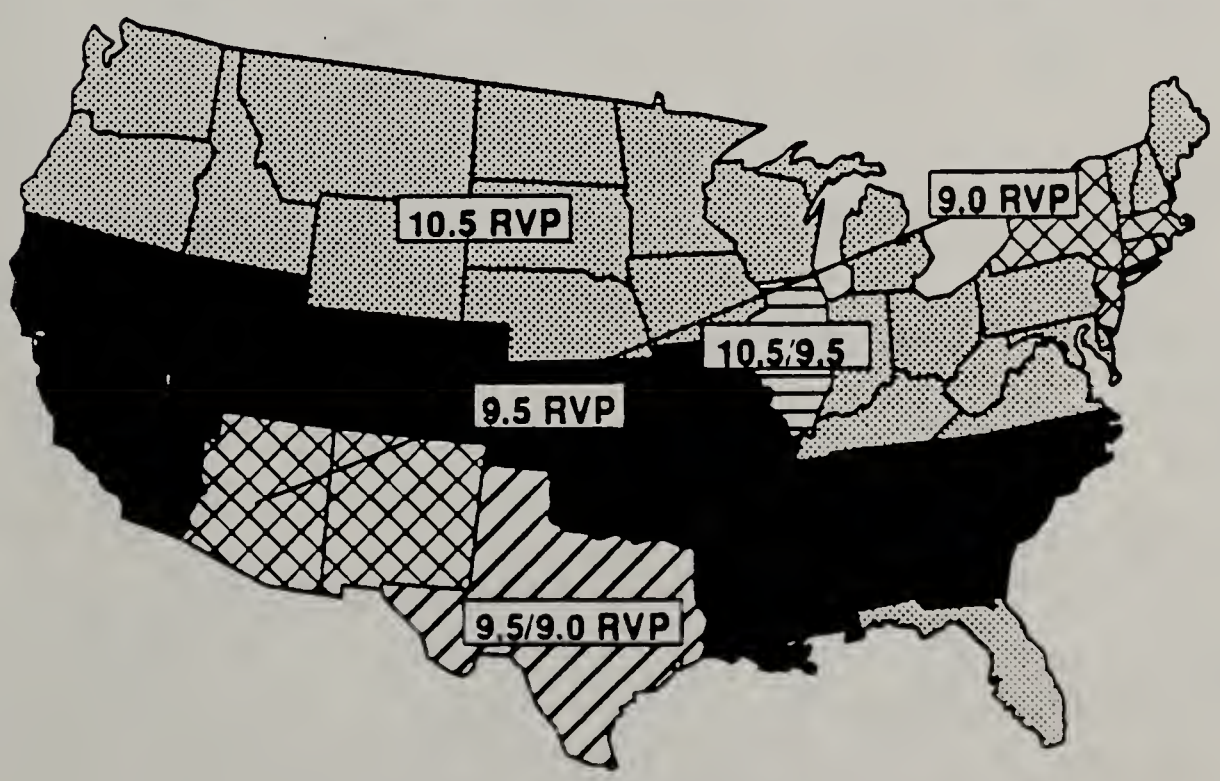


*Data Represents May 23 to September 3, 1988

JUNE GASOLINE VAPOR PRESSURE LIMITS



JULY GASOLINE VAPOR PRESSURE LIMITS



Source: Platts Oilgram, June 12, 1989

WITNESSES

Michael Bradley, Executive Director,
Northeast States for Coordinated Air Use Management

John Buckley, Vice President of Marketing,
Gulf Oil Division of Cumberland

James Carter, Downstream Planning and Analysis Manager,
Exxon U.S.A.

Lawrence Cresta
Crestview Corporation

Louis Gitto, Director of Air Management Division,
U.S. Environmental Protection Agency

Daniel Greenbaum, Commissioner
Department of Environmental Protection

Gregory Kaneb
Belcher New England

John Lichtblau, President
Petroleum Industry Research Foundation

Joel Maness, General Manager of Marketing,
Planning and Financial Analysis
Mobil Oil Corporation

Thomas Porter
Porter's Firestone

Edwin Rothschild, Assistant Director,
Citizen/Labor Energy Coalition

Richard Slifka
Global Petroleum Corporation

Edward Surette, Executive Director,
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Joseph Tomaino
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Dennis Winters, Senior Economist
Data Resources/McGraw Hill